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**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/602,037 06/23/00 BORTOLINI

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QM02/0803

EXAMINER

LEO, L

ART UNIT

PAPER NUMBER

3743

DATE MAILED:

08/03/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/602,037

Applicant(s)

BORTOLINI ET AL

Examiner

Leonard R. Leo

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 10-22, 24 and 27 is/are rejected.
- 7) ☒ Claim(s) 6, 8-9, 23, 25-26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2-3. 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Election/Restrictions***

This application contains claims directed to the following patentably distinct species of the claimed invention:

- I. The species illustrated in Figure 6;
- II. The species illustrated in Figure 8A;
- III. The species illustrated in Figure 8B. and
- IV. The species illustrated in Figure 10.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-4, 10-15, 18-21 and 27 appear to be generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to

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be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

In order to expedite prosecution, an action on the merits of all claims is as follows. An indication of allowable subject matter does not negate the election requirement, unless the subject matter is generic.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 11, 13, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Wickelmaier et al (WIPO). Regarding claims 11 and 18, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not

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differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987). Therefore, the specific working fluid, i.e. liquid or gas, is not a structural limitation. Regarding claim 20, orienting the device of Wickelmaier et al in a vertical direction meets the claimed limitation.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5, 14-16 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wickelmaier et al in view of Murphy et al.

Wickelmaier et al discloses all the claimed limitations except a piezoelectric actuator.

Murphy et al discloses a fan comprising a rigid blade 12 and piezoelectric actuator 20 for the purpose of optimizing space and power requirements.

Since Wickelmaier et al and Murphy et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Murphy et al would have been recognized in the pertinent art of Wickelmaier et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Wickelmaier et al a piezoelectric actuator for the purpose of optimizing space and power requirements as recognized by Murphy et al.

Claims 4, 7, 14, 17, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wickelmaier et al in view of Kolm et al.

Wickelmaier et al discloses all the claimed limitations except a piezoelectric actuator.

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Kolm et al discloses a fan comprising a flexible blade 18 (118) and piezoelectric actuator 28 (128) for the purpose of optimizing space and power requirements.

Since Wickelmaier et al and Kolm et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Kolm et al would have been recognized in the pertinent art of Wickelmaier et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Wickelmaier et al a piezoelectric actuator for the purpose of optimizing space and power requirements as recognized by Kolm et al.

Claims 10 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wickelmaier et al in view of Frankeny et al.

Wickelmaier et al discloses all the claimed limitations except external fins.

Frankeny et al discloses an electronic assembly comprising a circuit board 70 with components 82; circulating working fluid 14 via pump 76; and external fins 22 on enclosure 30 for the purpose of improving heat exchange.

Since Wickelmaier et al and Frankeny et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Frankeny et al would have been recognized in the pertinent art of Wickelmaier et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Wickelmaier et al external fins on the enclosure for the purpose of improving heat exchange as recognized by Frankeny et al.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wickelmaier et al in view of Rohner.

Wickelmaier et al discloses all the claimed limitations except a second aperture.

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Rohner discloses an electronic assembly comprising a substrate 12 with components 10; circulating working fluid 44 via pump 32; a first upper aperture 47 and a second bottom aperture 62 for the purpose of providing fluid circulation.

Since Wickelmaier et al and Rohner are both from the same field of endeavor and/or analogous art, the purpose disclosed by Rohner would have been recognized in the pertinent art of Wickelmaier et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Wickelmaier et al a second aperture for the purpose of providing fluid circulation as recognized by Rohner.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wickelmaier et al in view of Suga et al.

Wickelmaier et al discloses all the claimed limitations except an external portion.

Suga et al discloses an electronic assembly comprising a circuit board 10 with components 3; circulating working fluid 7 via a pump; and external circuit board portion (Figures 3B and 12) for the purpose of attaching the circuit board to a main or mother board 110.

Since Wickelmaier et al and Suga et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Suga et al would have been recognized in the pertinent art of Wickelmaier et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Wickelmaier et al an external circuit board portion for the purpose of attaching the circuit board to a main or mother board as recognized by Suga et al.

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*Allowable Subject Matter*


Claims 6, 8-9, 23 and 25-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry of a general nature, relating to the status of this application or clerical nature (i.e. missing or incomplete references, missing or incomplete Office actions or forms) should be directed to the Technology Center 3700 Customer Service whose telephone number is (703) 306-5648.

Any inquiry concerning this Office action should be directed to Leonard R. Leo whose telephone number is (703) 308-2611.

  
LEONARD R. LEO  
PRIMARY EXAMINER  
ART UNIT 3743

July 30, 2001